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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,694	01/09/2001	Anders Andreasson	JMYT-217 US	8633

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EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/29/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,694

Applicant(s)

ANDREASSON ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-8 in Paper No. 9 is acknowledged.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it repeats information given in the title. Correction is required.
See MPEP § 608.01(b).

Claim Objections

4. Claims 1-8 are objected to because of the following informalities: Claims 1-8 are in marked up form. Examiner suggests submitting the claims in clean format along with a

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marked up version, as required. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "improved" in claim 1 is a relative term which renders the claim indefinite. The term "improved" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner suggests deletion of the term.

Claim 1, line 4, and claim 7, line 5, "the NO₂ content" lacks antecedent basis. Examiner suggests deletion of "the".

Claim 6, "said gas cooling means" lacks antecedent basis. Examiner suggests --said means to cool gases--.

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Claim 8, "the exhaust gas after-treatment system" lacks antecedent basis.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn US 4,912,776 in view of Frederiksen et al. WO 97/43528.

Regarding claims 1 and 7, Alcorn '776 discloses an SCR system for treating NO_x in exhaust gas (see column 1, lines 23-25) comprising an oxidation catalyst effective to convert NO to NO₂ (see column 1, lines 9-10 and 15-16; column 2, lines 7-14), a source and injection means of reductant fluid (see column 3, lines 27-31 and column 5, lines 1-10).

Alcorn '776 fails to disclose a particulate filter.

Frederiksen '528 discloses a particle filter (see page 3, lines 22-25).

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It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particle filter of Frederiksen in the SCR exhaust gas treatment system of Alcorn because Frederiksen discloses his filter in a SCR exhaust gas treatment silencing process (see page 8, lines 15-16) to force the exhaust gas to take tortuous paths and achieve a mechanical filtering effect (see page 8, lines 1-4).

Regarding claim 2, Alcorn '776 discloses ammonia (see column 3, lines 27-31 and column 5, lines 1-10).

Regarding claim 3, Alcorn '776 discloses platinum catalyst (see column 4, lines 41-44) and a honeycomb carrier having flow passages (see column 4, lines 27-34).

Regarding claim 4, Frederiksen '528 discloses a wall-flow particle filter (see page 3, lines 22-25).

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz et al. US 6,274,107.

Regarding claims 1 and 7, Alcorn '776 discloses an SCR system for treating NO_x in exhaust gas (see column 1, lines 23-25) comprising an oxidation catalyst effective to convert NO to NO₂ (see column 1, lines 9-10 and 15-16; column 2, lines 7-14), a

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source and injection means of reductant fluid (see column 3, lines 27-31 and column 5, lines 1-10).

Alcorn '776 fails to disclose a particulate filter.

Yavuz '107 discloses a particulate filter (see column 7, lines 6-7).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter of Yavuz in the SCR exhaust gas treatment system of Alcorn because Yavuz discloses his filter in a process for treating exhaust gas making reference to SCR systems (page 1, abstract and publications list) to block alternate channels to pass exhaust gas through to exit the carrier structure (see column 7, lines 9-14).

Regarding claim 2, Alcorn '776 discloses ammonia (see column 3, lines 27-31 and column 5, lines 1-10).

Regarding claim 3, Alcorn '776 discloses platinum catalyst (see column 4, lines 41-44) and a honeycomb carrier having flow passages (see column 4, lines 27-34).

Regarding claim 4, Yavuz '107 discloses a wall-flow filter (see column 7, lines 6-7).

10. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Frederiksen '528 as

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applied to claim 1 above, and further in view of Yoshida et al. US 5,534,237.

Regarding claims 5 and 6, Alcorn '776 discloses operation at a sufficiently low temperature to convert NO to NO₂ (see abstract).

Alcorn '776 fails to disclose means to cool gases upstream of the SCR catalyst.

Yoshida '237 discloses means for sensing the exhaust gas temperature and controlling the flow of the exhaust gas to raise or lower the temperature (see column 11, lines 11-20) upstream of the exhaust gas cleaner (see column 11, lines 1-6).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upstream temperature control of Yoshida in the SCR exhaust gas treatment system of Alcorn because Yoshida discloses his controlling in an exhaust gas cleaning system (title, abstract) to adjust with changing driving conditions and ensure high-efficiency in cleaning of the exhaust gas (see column 11, lines 7-10).

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz '107 as applied to claim 1 above, and further in view of Yoshida et al. '237.

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Regarding claims 5 and 6, Alcorn '776 discloses operation at a sufficiently low temperature to convert NO to NO₂ (see abstract).

Alcorn '776 fails to disclose means to cool gases upstream of the SCR catalyst.

Yoshida '237 discloses means for sensing the exhaust gas temperature and controlling the flow of the exhaust gas to raise or lower the temperature (see column 11, lines 11-20) upstream of the exhaust gas cleaner (see column 11, lines 1-6).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upstream temperature control of Yoshida in the SCR exhaust gas treatment system of Alcorn because Yoshida discloses his controlling in an exhaust gas cleaning system (title, abstract) to adjust with changing driving conditions and ensure high-efficiency in cleaning of the exhaust gas (see column 11, lines 7-10).

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Frederiksen '528 as applied to claim 1 above, and further in view of Twigg et al. US 6,294,141.

Regarding claim 8, Alcorn fails to disclose a light duty diesel engine.

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Twigg '141 discloses a light duty diesel engine (see abstract).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light duty diesel engine of Twigg with the SCR exhaust gas cleaning system of Alcorn because Twigg discloses his light duty diesel engine in a catalytic emission control system since light diesels operate at appreciably lower temperatures (see column 1, lines 39-40) and to increase the engine operating envelope and economy, and to deal with soot (see column 1, lines 45-48).

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz '107 as applied to claim 1 above, and further in view of Twigg '141.

Regarding claim 8, Alcorn fails to disclose a light duty diesel engine.

Twigg '141 discloses a light duty diesel engine (see abstract).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light duty diesel engine of Twigg with the SCR exhaust gas cleaning system of Alcorn because Twigg discloses his light duty diesel engine in a catalytic emission control system since

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light diesels operate at appreciably lower temperatures (see column 1, lines 39-40) and to increase the engine operating envelope and economy, and to deal with soot (see column 1, lines 45-48).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bell US 5,224,334 discloses low NO_x generation system comprising conversion of NO to NO₂ and cooling from a temperature of 750-1250 to 450-650 degrees Fahrenheit (see abstract and Examples); Irite et al. US 5,670,443 discloses exhaust gas cleaner comprising 5% Pt (abstract and column 2, lines 58-59).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

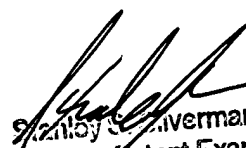
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ

October 25, 2002


Stanley S. Silverman
Supervisory Patent Examiner
Technology Center 1700